

A New *Mouriri* (Melastomataceae) from the Dominican Republic

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ABSTRACT. A new *Mouriri* in the section *Nesophytum* has been found at 1,300 m in the Cordillera Central, Dominican Republic. Collected only in fruit, the new species can be distinguished primarily by its mostly terminal infructescence, large fruits and seeds, thick calyx lobes, and hypanthium shape, greatly modified in fruit.

A party of botanists collecting at high elevations in the Dominican Republic in 1986 found a fruiting *Mouriri* that they thought was probably a new species. On first seeing the material I thought otherwise, since at least when in fruit the plant superficially resembles *M. spathulata* of Cuba and the Dominican Republic. However, the collectors were right, as a study of details of fruit structure and other features shows.

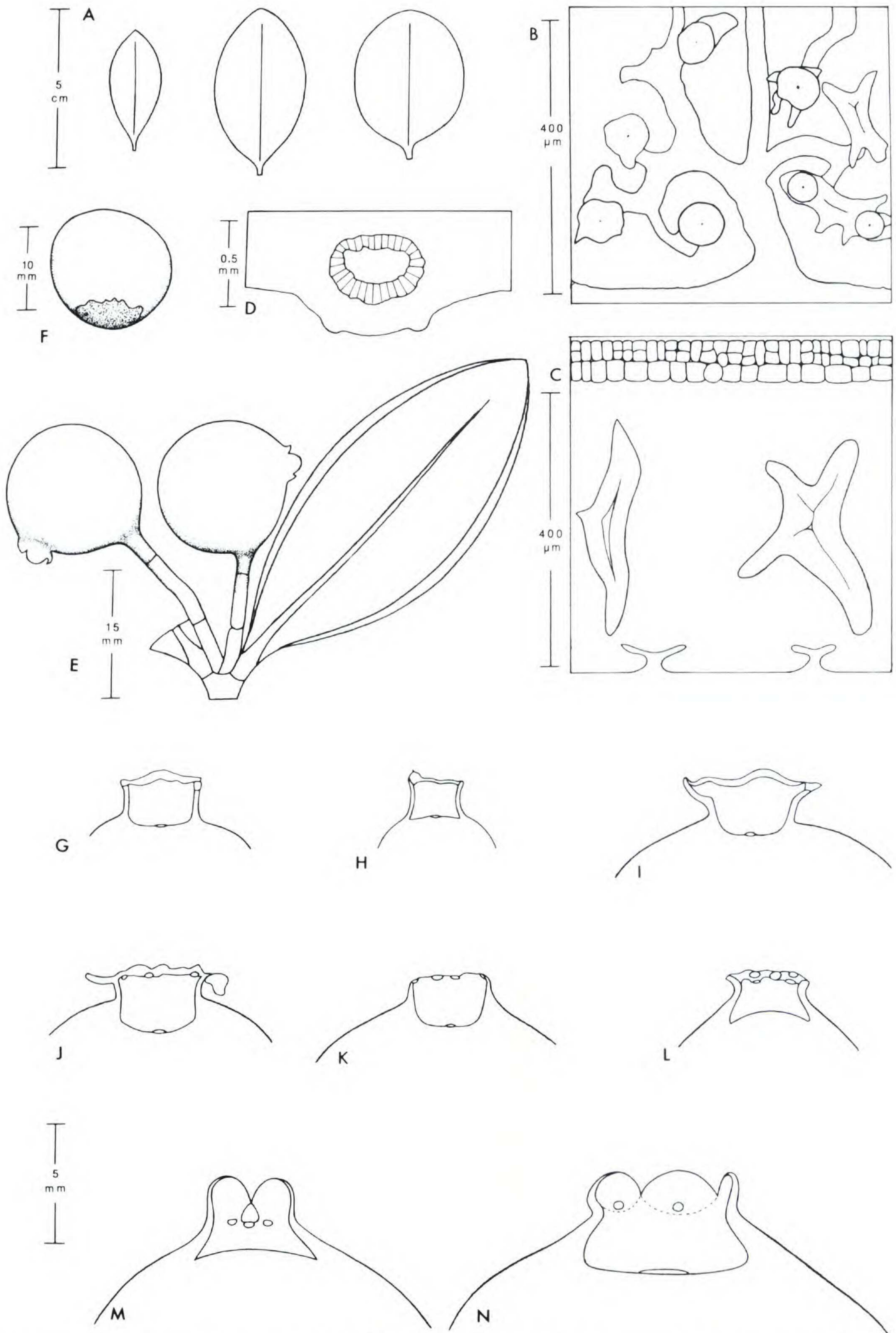
***Mouriri crassisepala* Morley, sp. nov.** TYPE: Dominican Republic. Prov. La Vega: Cordillera Central, ladera del N de la Loma de La Sal, frente al Valle de Jarabacoa, vegetación de bosque secundario, con pinos, pero arboles latifoliados del bosque húmedo en la cima, 19°05'N, 70°35'W, alt. 1,300 m, 21 May 1986, T. Zanoni, M. Mejia & R. Garcia 36370 (holotype, FLAS; isotype, JBSD). Figure 1.

Arbor usque 12 m alta; laminae 2.7–4.8 cm longae, 1.7–3.3 cm latae, 0.36–0.48 mm crassae, margine revoluta; cryptae stomatophorae 60–65 μ m diametro; fructus plerumque terminales, raro axillares, 14–32 mm diametro; lobi calycis ad maturitatem fructus persistentes, 0.3–0.7 mm crassi; cicatrix styli 1.5–2.5 mm diametro; diameter intra hypanthii ad basim 4.2–6.6 mm; semina 14–16.5 mm longa.

Small tree to 12 m high, glabrous except for the inflorescence; young twigs round to 4-angled or rarely with small ridges at the angles. Petioles 1.5–3.5 mm long; blades 2.7–4.8 cm long, 1.7–3.3 cm wide, 0.36–0.48 mm thick, elliptic to ovate-elliptic, the

margin strongly revolute, the apex rounded or seeming broadly acute through revolution of the margins, rarely mucronate, the base acute to broadly so; midrib plane above, plane to very low rounded or very low-rectangular or with two low lateral ridges below; lateral nerves not visible. Midrib xylem tubular; stomatal crypts usually Type III (Morley, 1976), Type II when small, averaging 60–65 μ m diam., 28–35 μ m high, 30–42 per sq. mm (extremes 35–90 μ m diam., 25–40 μ m high, 24–57 per sq. mm); upper epidermis 1–2 cells thick; mucilage walls none; hypodermis present; terminal sclereids from stellate with a horizontal central body and columnar branches to thick-columnar with branches at each end and no central body. Flowers unknown; fruits mostly terminal, seldom in the upper axils; peduncles 1–2 per side, each 1–3-fruited, 3–19 mm long to base of most distal pedicel measured along the axes and with 1–3 internodes in that length; bracts deciduous before fruiting. True pedicels 1.5–5 mm long, they and the axes of the inflorescence minutely puberulent or granular to glabrous; calyx lobes persistent in fruit, then 1.5–1.9 mm long from stamen attachment, 2.4–3.2 mm wide, 0.3–0.7 mm thick, rounded, seeming to have split apart ca. 0.5–0.8 mm at anthesis; petal and stamen scars dark, barely or not discernible, flush with the surface, petal scars 1.3–1.5 mm long (radially), 1.3–1.4 mm wide (circumferentially) or indistinct; antesealous stamen scars 0.3–0.5 mm long, 0.8–1.2 mm wide, the antepetalous ones 0.4 mm long and 0.6 mm wide or indistinct; style scar 1.5–2.5 mm diam.; inside diameter of base of fruiting hypanthium 4.2–6.6 mm, less at apex, the walls thus overhanging, the overhang great in 1-seeded fruits, less in several-seeded ones; apex of fruit within hypanthium convex to flat. Fruits crowned with the calyx, 1–4-seeded, subglobose when 1-seeded, then 14–22 mm diam., lobed according to the number of seeds when seeds more than 1, up to 32 mm diam. when seeds 2–4,

Figure 1. A–F, *Mouriri crassisepala* Morley. —A. Leaves from various collections. —B. Cleared part of leaf blade showing veins and terminal sclereids (Judd 5150). —C. Cross section of leaf blade showing sclereids, upper epidermis, hypodermis, and stomatal crypts (Judd 5150). —D. Cross section of leaf midrib (Zanoni 36370). —E. Fruits, and leaf with revolute margins (Judd 5150). —F. Seed (Zanoni 36370). G–N, Lengthwise sections through the hypanthium as found on the fruit. All are one-seeded fruits except as indicated. —G. *M. helleri* var. *helleri* (Alain Liogier



10508). —H. *M. helleri* var. *samanensis* (Ekman H11295). —I, J. *M. spathulata* var. *spathulata* (I, Morley 885; J, Montero 21248). —K. *M. spathulata* var. *brachypoda*, 2-seeded (Gonzales 2042). —L. *M. emarginata* (Shafer 589). M, N. *M. crassisepala* (Skean 1779). —M. 1-seeded. —N. 3-seeded.

TABLE 1. *Mouriri crassisepala* compared with the three other species in its section known in the fruiting condition.

| | <i>M. crassisepala</i> | <i>M. spathulata</i> | <i>M. emarginata</i> | <i>M. helleri</i> |
|--|------------------------|----------------------|----------------------|-------------------------|
| Leaf blade length (cm) | 2.7-4.8 | 3-10.5 | 2.6-8 | 1-4.1 |
| Blade thickness (mm) | 0.36-0.48 | 0.15-0.37 | 0.21-0.37 | 0.23-0.47 |
| Stomatal crypt diameter (μm) | 60-65 av. 62.5 | 25-65 av. 45 | 30-93 av. 61.5 | 30-62 av. 46 |
| Number of crypts per mm^2 | 30-42 | 55-170 | 15-60 | (0-)40-115 |
| Inflorescence | mostly terminal | axillary | axillary | axillary or lower |
| Fruit diam. (mm) | 14.7-32 | 15-30 | 9.5-15 | 7.5-12 |
| Thickness of calyx lobes (mm) | 0.3-0.7 | 0.1-0.2 | deciduous | 0.1-0.2 or deciduous |
| Style scar diam. (mm) | 1.5-2.5 | 0.4-0.8 | 0.4-0.8 | 0.3-0.5 |
| Inside diam. at base of hypanthium (mm) | 4.2-6.6 | 2-3.1 | 2.8-3.3 | 2-2.5 |
| Seed length (mm) | 14-16.5 | 11.5-13.3 | 7.7-8.6 | 4.5-6 |

the dry measurements ca. 25% less. Seeds medium to dark brown, smooth, 14-16.5 mm long, 12.5-15.5 mm wide, 10-14 mm thick, subglobose or flattened on the contact faces when more than 1, with a roundish to angled basal hilum 5-7 mm diam.

Distribution. Known only from the montane forests of the Cordillera Central near the center of the Prov. La Vega, Dominican Republic, at 1,300-1,330 m.

Mouriri crassisepala belongs to section *Nesophytum*, which is restricted to the islands of Cuba, Hispaniola, and Puerto Rico and which contains five species including the new one (Morley, 1957). Plants of the section are characterized by small obovate leaves with tubular midrib xylem and Type III stomatal crypts, a hypodermis lacking mucilage walls, free calyx lobes, average anthers for the genus, and axile-basal to axile ovules produced only outwardly from each placenta. Of the species in the section, *M. helleri* occurs in Puerto Rico and Hispaniola, *M. gonavensis* in southwest Hispaniola, *M. spathulata* in Hispaniola and Cuba, *M. emarginata* in Cuba, and the new species in central Hispaniola.

Within the section the major distinguishing features of the new species are its thick leaves with large stomatal crypts, mostly terminal fruits, large fruits and seeds, thick persistent calyx lobes, and the hypanthium which in fruit is sunken and expanded at the base but not at the apex, producing a prominent overhang and a convex to flat ovary top.

The most difficult species to contrast with the new one is *Mouriri gonavensis* of southwest Haiti, since the latter is known only in flower, the former only in fruit. In the following comparisons the first statement refers to *M. crassisepala*, the second to *M.*

gonavensis: petioles 1.5-3.5 mm long vs. 2-8 mm; blade/petiole ratio 12-18(-24) vs. usually 7-11; blade margins strongly revolute vs. usually flat to somewhat revolute; blade thickness 0.36-0.48 mm vs. 0.25-0.27 mm; stomatal crypt average diameter 62.5 μm vs. 50 μm , average frequency 36 per sq. mm vs. 42.5; flowers mostly terminal but sometimes in subterminal axils vs. axillary or sometimes at nodes below the leaf zone; calyx lobe length from stamen attachment 1.5-1.9 mm (fruit) vs. 1.7-2.5 (flower); number of ovary locules probably up to 5 judging by the seeds in the fruit vs. 2-3; elevation 1,300-1,330 m vs. 700-1,100 m.

While further information obviously would be desirable, these comparisons better support an interpretation of these plants as different species rather than the same.

The remaining three species in the section are contrasted with *Mouriri crassisepala* in Table 1. *Mouriri helleri* is least like *M. crassisepala* because of the former's small leaves, fruits, and seeds, numerous small stomatal crypts, and little modified fruiting hypanthium. *Mouriri spathulata* resembles *M. crassisepala* in having large fruits and seeds and persistent calyx lobes, but disagrees in its smaller and more numerous stomatal crypts, axillary inflorescence, thin calyx lobes, small style scar, and only slightly modified fruiting hypanthium. *Mouriri emarginata* is more like the new species in having few large crypts and a fruiting hypanthium smaller than but similar in form to that of *M. crassisepala*, but differs in its thinner leaves, axillary inflorescence, smaller fruits, seeds, hypanthium base, and style scar, and deciduous calyx lobes. Because of the unusual and highly modified nature of the fruiting hypanthium in the last two named species it is thought that *M. crassisepala* is probably more close-

ly related to the Cuban *M. emarginata* than to either of the others.

The differences in the shape of the fruiting hypanthium are illustrated in Figure 1G–N. In *Mouriri helleri* the hypanthium remains almost entirely above the fruit tissue, and the tendency for the base of the hypanthium to be expanded during fruit formation varies from none to slight. In *M. spathulata* the base of the hypanthium has become sunken in the fruit, but there is little or no tendency for it to be expanded. In *M. emarginata* and *M. crassisejala* the base is sunken and has been expanded, substantially so in the former, more so in the latter, while the apex remains unchanged in diameter or is compressed inward, producing an overhang of the hypanthium walls. In the last two species the apex of the fruit within the hypanthium is strongly convex in one-seeded fruits; in *M. crassisejala* the apex becomes flatter or very slightly concave, and the overhang less when there are more than one seeds and thus the diameter of the fruit is greater and the

expansion of the apex of the fruit is increased. I have seen no fruits of *M. emarginata* with more than one seed. It would appear that the development of the forms with sunken hypanthia was associated with increased fruit size.

Paratypes. DOMINICAN REPUBLIC. **La Vega:** Jimenoa, mountains above (SW of) Jarabacoa, NW slope of the Loma La Sal, moist montane forest, 1,330 m, 21 May 1986, *W. S. Judd 5150* with *T. A. Zanoni, M. Mejia, J. D. Skean, Jr. & R. Beaman* (FLAS, JBSD); Cordillera Central, NW foothills of Loma de la Sal, disturbed cloud forest with *Brunellia, Baccharis, Miconia, Rhytidophyllum, Cyathea*, and *Arthrostylidium*, 1,330 m, 21 May 1986, *J. D. Skean, Jr. 1779* with *Beaman, Judd & Zanoni et al.* (FLAS, JBSD).

Literature Cited

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